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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,771	01/05/2004	Huan-Ke Chiu	CHIU3032/EM	1658

23364 7590 09/08/2006

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EXAMINER
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PHAM, TUAN

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/750,771	Applicant(s) CHIU ET AL.	
	Examiner TUAN A. PHAM	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 is/are allowed.
- 6) ☒ Claim(s) 10-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montalvo et al. (U.S. Patent No.: 6,693,969, hereinafter, "Montalvo") in view**

**of Broughton (U.S. Patent No.: 6,560,297) and further in view of Shinbo et al. (Pub. No.: US 2004/0053595, hereinafter, "Shinbo").**

4. **Regarding claim 10**, Montalvo teaches an up-conversion modulation loop for mobile communication being used for performing the signal modulation, detection and transmission for signal emission, the loop performing the following steps (see figure 1):

transmitting a modulation phase (see figure 1, modulator 24) signal wherein first modulation phase signal (see figure 1, modulator 24, I signal) and a second modulation phase signal are transmitted to a phase modulator and a phase detector (see figure 1, modulator 24, Q signal, phase detector circuit 32), and the phase modulator is used for comparing the signals, and the phase detector is used for detecting the phases of the two modulation phase signals (see figure 1, modulator 24, I signal, Q signal, phase detector circuit 32), generating a difference after signal comparing by phase modulator (see figure 1, output 42), transmitting generated difference to a signal transmitter (see envelope detector 60) and a first filter (loop filter 34).

It should be noticed that Montalvo fails to teach comparing the signal frequencies and filtering the signals wherein the first filter transmits the difference to a phase frequency comparator and a loop low-pass filter so as to perform the comparing and the filtering; synthesizing the signals wherein a first adder is used for synthesizing the signals, and transmitting the synthesized signal to a voltage controlled oscillator, modulating the phase frequencies wherein the voltage controlled oscillator is used for modulating the input and output signals so as to make the modulated phases of

the output and input signals consistent, outputting and emitting the signal to output the modulated signal with consistent phase to a power amplifier so as to accomplish the up-conversion modulation for the multi-mode mobile communication. However, Broughton teaches comparing the signal frequencies and filtering the signals wherein the first filter transmits the difference to a phase frequency comparator (see figure 1, phase modulator, filter 40, phase comparator 44, filter 48) and a loop low-pass filter so as to perform the comparing and the filtering; synthesizing the signals wherein a first adder is used for synthesizing the Signals (see figure 1, adder 38), and transmitting the synthesized signal to a voltage controlled oscillator (VCO 50), modulating the phase frequencies wherein the voltage controlled oscillator is used for modulating the input and output signals so as to make the modulated phases of the output and input signals consistent, outputting and emitting the signal to output the modulated signal with consistent phase to a power amplifier so as to accomplish the up-conversion modulation for the multi-mode mobile communication (see col.2, ln.54-65).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Broughton into view of Montalvo in order to reduce the cost for the device as suggested by Broughton at col.2, ln.1-3.

Montalvo and Broughton, fails to teach the global system for mobile communication (GSM) and the wideband code division multiple access (WCDMA). However, Shinbo teaches such features (see [0122]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Shinbo into view of Montalvo and

Broughton in order to reduce the cost for the device as suggested by Broughton at col.2, ln.1-3.

**Regarding claim 11**, Broughton further teaches the voltage controlled oscillator the third mixer used receiving a first down-conversion signal from outside, and outputting a feedback signal to a second filter, and after the second filter processes the signal, the feedback signal is outputted to the phase modulator (see figure 2, VCO 50, mixer 54, filter 62).

**Regarding claim 12**, Broughton further teaches the phase modulator further comprises: phase converter for receiving the feedback signal, and performing the phase modulation so as to output a in-phase feedback signal and a quadrature phase feedback signal; a first mixer for receiving the positive phase feedback signal outputted by the phase converter and a first modulation phase signal outputted form outside of the phase modulator, and then performing the mixing so as to outputting the mixed signal a first adder; a second mixer for receiving the quadrature phase feedback signal outputted by the phase converter and second modulation phase signal outputted from outside of the phase modulator, and then performing the mixing so output the mixed signal to the adder; a first adder for receiving the mixed signals outputted by the first mixer and the second mixer, and then performing the signal comparing so as to output the signal the first filter and the signal transmitter outside the phase modulator (see figure 2, mixer 32, mixer 34, phase shift 36, adder 38).

**Regarding claim 13**, Montalvo further teaches the modulation phase

signal is further inputted into a signal amplitude detector, and the signal amplitude detector will detect the amplitude of the signal, and output the signal to the power amplifier (see figure 1, envelope detector 60, PA 99).

### ***Allowable Subject Matter***

5. Claims 1-9 are allowed.

### **Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Rozenblit et al. (U.S. Pub. No. 2004/0017858), and Sato (U.S. Pub. No. 2004/0097210) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s).

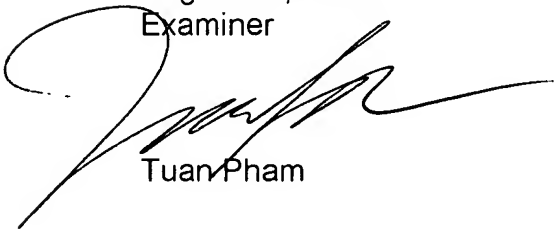
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2618  
August 30, 2006  
Examiner

A handwritten signature in black ink, appearing to read 'Tuan Pham', written over the printed name.

Tuan Pham

Supervisory Patent Examiner  
Technology Center 2600

A handwritten signature in black ink, appearing to read 'Matthew Anderson', written over the printed name.

Matthew Anderson